it.human platform

THE BEGINNING OF A BEAUTIFUL CUSTOMER RELATIONSHIP

NTT DATA Business Solutions

SAP Platinum Partner

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LEVERAGING EMOTIONAL CONNECTION

Smart Self-Service Solution with a Human Touch
Chatbots and self-service solutions are used like never before - they are fast, efficient and flexible - but they lack emotions and a human touch. Emotionally connected customers are even more valuable than satisfied customers, which makes emotion a key factor in customer experiences.

> Only 7% of successful communication comes from the words we say. So, when it comes to customer experience, emotions are key.

Thomas Normark, Global Head of AI & Robotics, NTT DATA Business Solutions

Research shows that 93% of emotional communication is non-verbal. So when it comes to buying behavior and customer service, the subtle communication of gestures and facial expression between humans are of great influence on the outcome. This is why digital humans are trained to recognize, interpret, and react to human emotions by receiving visual input of nonverbal micro-expressions. The digital human is able to respond based on the user's unique characteristics and needs. Is your customer feeling frustrated? The digital human will pick it up and adjust accordingly.

93%
of emotional communication is non-verbal

In addition, the digital human stores a huge bank of information, remembers new facts, recalls conversations, and can thereby develop meaningful personal relationships with individual customers and employees*. With digital humans, we put a face on faceless technology and augment human employees in way that combines the advantages of fast quality service with high-value humanized interaction.

Discover the Digital Human
At the same time, there is a need for automating and utilizing the limited resources of employees in the best possible way. Take the receptionist as an example. Traditionally, the receptionist is the first person a visitor encounters when visiting your company, being responsible for the first impression that is crucial for the overall experience. No matter the purpose of the visit – whether it be for a job interview, a business meeting, or just a delivery– the visitor expects to be greeted by a smile and a friendly voice.

However, today, the receptionist has 100 other tasks on the daily agenda, making it impossible to sit down by the front desk all day. The receptionist is also preparing the breakfast, prepping meeting rooms, shopping for office supplies and what not. By complementing the receptionist with a digital human, the visitors will always be welcomed as they step inside – even outside of normal office hours or when the receptionist has a day of absence.

In other words, a digital human will not only be valuable to the supported employees, but also for the company image and – most importantly – the customer experience.

*Standard solution is GDPR compliant. Custom solution needs to be evaluated by local data protection officer

How Does It Work?

We have developed a framework to create approachable and friendly virtual service workers living inside screens, utilizing the newest technology within digital humans, artificial speech, computer vision and conversational artificial intelligence.

The service workers spun out of the platform are referred to as "it.humans". The platform itself is thus not a complete solution, but rather a framework around which an it.human with a fitting persona can be customized to each individual customer's needs.

An it.human works as an interaction between a user and persona on a screen. The main technology components are:
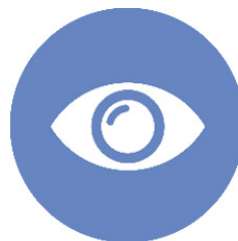
- **Digital Human:** A high-fidelity, life-like digital avatar looking like a human, with whom users can interact with, including movement and micro-expressions. In addition to the it.human on the screen, it is also possible to display multimedia content including audio, video and images. The user interface can also be augmented with touch elements.

- **Artificial Speech:** Users can interact with the it.human using natural spoken language. The it.human is able to both hear and understand natural language, and responds using a natural sounding voice.

- **Computer Vision:** The it.human can detect when people are standing in front of it.

- **Conversational Artificial Intelligence:** The it.human can understand what the user wants and gives an appropriate and informative answer. The answer can be enhanced by integrating with back-end systems and services.
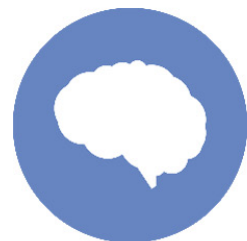

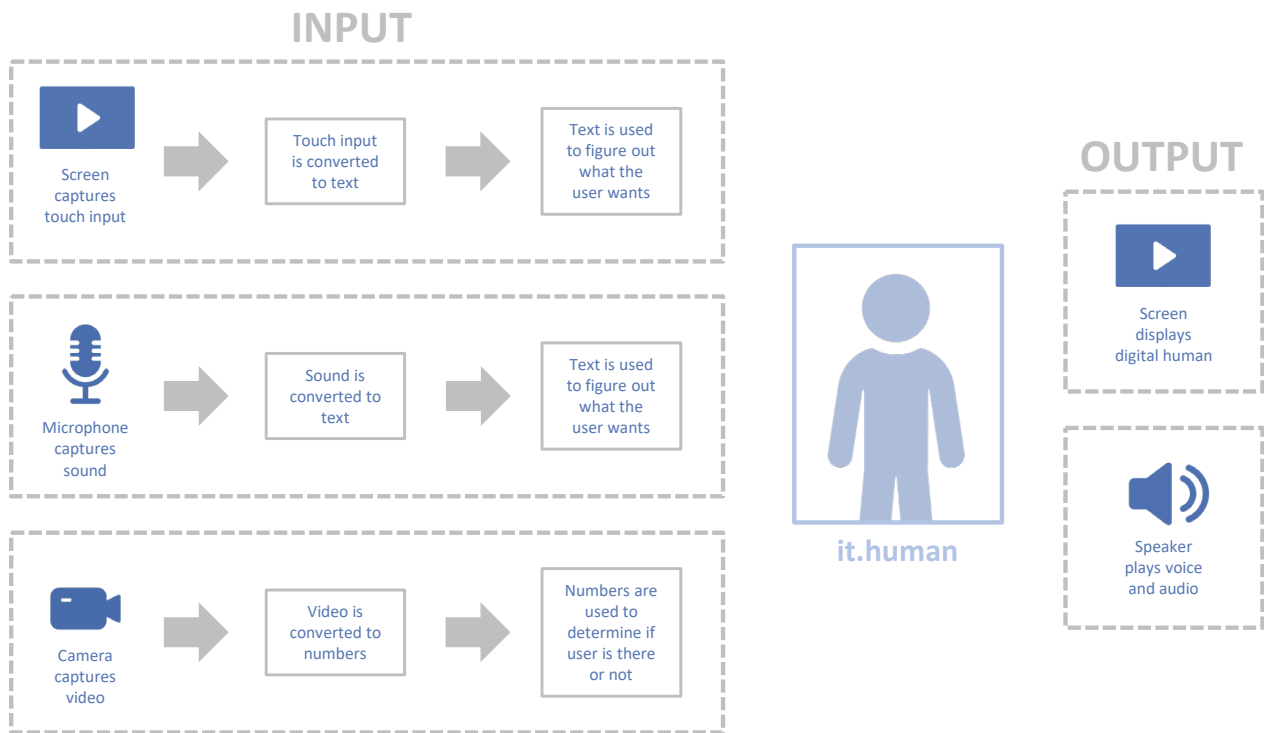**Digital human** **Artificial speech** **Computer vision** **Conversational AI**

In order to enable the technology, the following hardware components are needed:

- **Screen:** Displaying the face and body of the it.human. Can also be an input source, if it is a touch screen and the user presses buttons
- **Microphone:** The ears of the it.human, capturing what the user is saying
- **Camera:** The eyes of the it.human, seeing the user
- **Speaker:** The voice of the it.human, playing the spoken words of the it.human, as well as any multimedia which might be included

Screen captures touch input → Touch input is converted to text → Text is used to figure out what the user wants

Microphone captures sound → Sound is converted to text → Text is used to figure out what the user wants

Camera captures video → Video is converted to numbers → Numbers are used to determine if user is there or not

it.human

Screen displays digital human

Speaker plays voice and audio

Display Options

An it.human can be displayed in various ways, depending on the persona and the needs for setting and availability.

- **Kiosk:** A kiosk is a large screen, around 43" – 55", build into a casing with all necessary hardware placed inside. The it.human is thus approximately the same size as a real human, allowing for conversation at eyelevel. Microphones, camera and speakers are all mounted in/on the kiosk.

The kiosk display option works particularly well in cases where a user is alone with a self-service screen or waiting for a real human to come help. This could for example be in a reception, store or tourist information, particularly outside normal business hours or during busy times of the day.

User — Avatar
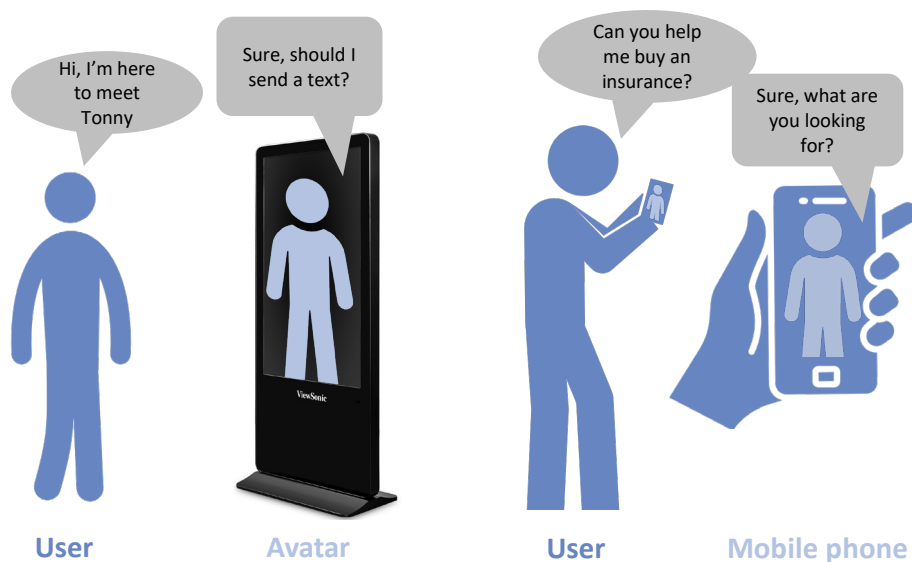
User — **Mobile phone**

- **Mobile phone:** On a mobile phone, the it.human can be displayed just like any other game or website would be displayed on a phone. The it.human utilizes the build-in microphone, camera and speakers in the phone. The mobile phone display option works particularly well for cases where the user is browsing websites looking for products or services, and are pleasantly surprised when they are offered personalized help.

- **Laptop:** The laptop display option is similar to the mobile phone display option; the it.human is displayed like a game or website, and it uses the build-in microphone, camera, and speakers in the phone. Also similar to the mobile phone option, the laptop works particularly well for cases where one is not expecting to be offered personal help when browsing. The it.human is in particular a good add-on/substitute for classic text-based chatbots, which might be efficient in providing information to the user, but not strong in providing a good emotion-driven customer experience.

User   **Computer**
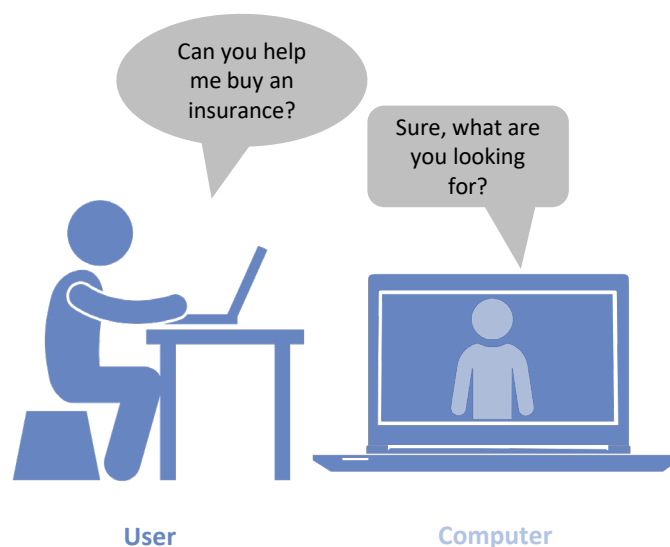
Skillset Based on Your Needs

In the it.human platform, a set of skills can be mixed and matched to create a solution fitting the specific customer needs. The list of skills is continuously growing as new development takes place and new technologies are utilized. These are some selected examples:

- Speaking like a human
- Listening and understanding naturally spoken language
- Knowledge about a certain area of expertise to give valuable information to the user
- Listening only to the user standing close by, ignoring background noise
- Communicating through visuals such as images and videos
- Allowing input through visuals such as buttons on a touch screen
- Having neutral, happy and sad facial expressions
- Greeting users when they are approaching by detecting faces

Let a Digital Human Greet Your Guests

An it.human can take on different personas depending on the customer's needs. The personas are continuously developed and improved, and new ones added - see some selected example personas in the table.

Persona	Use Case	Display Options
Receptionist	Welcoming guests arriving in an office building or similar, contacting guests' meeting hosts and informing about the facilities	Kiosk
Promoter	Promoting an event to encourage users to participate by advertising and informing about the event	Kiosk, mobile phone
Sales Clerk	Taking orders, checking customers in and out, answering questions and giving guidance etc.	Kiosk, mobile phone
Guide	Informing guests in tourist sites about the area, upcoming events and possible trips, as well as practical information	Kiosk
Customer care agent	Selling products and services, both informing and upselling	Kiosk, laptop, mobile phone
Citizen service assistant	1st line of support for citizens in a public office, being the visitation layer, creating tickets/requests and dispatching	Kiosk
Travel companion	An assistant on the road both in manual and self-driving car scenarios, helping with navigation, today's appointments and alike	In-car
Homeschool helper	A buddy for children learning to read, being both encouraging and helpful	Laptop
Presenter	Giving presentations about a certain topic, often in collaboration with a real human	Kiosk (or other large monitor)

Onboarding of a Digital Employee

- Monthly cost is less than a full-time employee salary
- Including software, licensing, delivery, installation and support
- Initial project build takes 2-3 weeks / 10-15 working days
- Data can be continuously added to the knowledge base after the initial build

Ready to welcome your new employee?

Do not hesitate to contact us:

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